Listing and Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently amended) Method for processing video picture data for display on a display device (16) having a plurality of luminous elements corresponding to pixels of a video picture, wherein the brightness of each a pixel is controlled by at least one sub-field code word with which the luminous element/s are activated or inactivated for light output in small pulses corresponding to sub-fields in a video frame, wherein a sub-field has assigned a sub-filed weight, the sub-field weight determining the length in time a pixel is activated during this sub-field, the method comprising the steps of:

transforming said video picture data according to a retinal function before the dithering step,

dithering said video picture data and

sub-field coding said dithered video picture data for brightness control,

~~characterized by the further step of~~

applying a specific code in the step of sub-field coding in which by corresponding bit entries it is avoided that in a frame period a sub-field is inactivated between two activated sub-fileds and where the sub-field weights are adapted to grow according to the inverse retinal function, thereby integrating the inverse transformation of the dithered video picture data in a step of sub-field coding.

~~transforming said video picture data according to a retinal function before said dithering step.~~

2. (Original) Method according to claim 1, wherein said transforming includes an expansion of low video levels of brightness and a compression of high video levels of brightness.

3. (Original) Method according to claim 1, wherein said retinal function for transforming input values to output values is $y=a \cdot \log 10(b+c \cdot x)$, where a, b, and c are real numbers.

4. (Original) Method according to claim 1, wherein said retinal function is applied via a look-up table.

5. (Original) Method according to claim 1, wherein weights for the sub-field coding are computed by using the inverse retinal function.

6. (Original) Method according to claim 1, wherein the dithering step has the characteristic that with one sub-field more video levels are rendered in the high video level range than in the low video level range.

7. (Currently amended) Device for processing video picture data for display on a display device ~~(16)~~ having a plurality of luminous elements corresponding to pixels of a video picture, comprising brightness controlling means with which the brightness of ~~each~~ a pixel is controlled by at least one sub-field code word with which the luminous element/s are activated or inactivated for light output in small pulses corresponding to sub-fields in a video frame, a sub-field having assigned a sub-field weight, the sub-field weight determing the length intime a pixel is activated during this sub-field, including

transforming means for transforming said video picture data according toa retinal function,

dithering means ~~(12)~~ for dithering said transformed video picture data and

sub-field coding means ~~(14)~~ for sub-field coding said dithered video picture data for displaying, using a specific sub-field code in which by corresponding bit entries it is avoided that in a frame period a sub-field is inactivated between two activated sub-fields, and wherein the sub-field weights are adapted to grow according to the inverse retinal function, thereby integrating the inverse transformation of the dithered video picture data in the step of sub-field coding.

~~characterized by~~

~~transforming means (11) for transforming said video picture data according to a retinal function before dithering.~~

8. (Original) Device according to claim 7, wherein said transforming means (11) cause expansion of a low input video level range and compression of a high input video level range.

9. (Original) Device according to claim 7, wherein said retinal function for transforming input values is $y=a \cdot \log10(b+c \cdot x)$, where a, b, and c are real numbers.

10. (Original) Device according to claim 7, wherein said retinal function is applicable via a look-up table by said transforming means (10).

11. (Original) Device according to claim 7, wherein said sub-field coding means (14) is designed to compute weights for the sub-field coding by using the inverse retinal function.

12. (Original) Device according to claim 7, wherein the transforming means (10) cause that the dithering means (12) render more video levels with one sub-field in the high video level range than in the low video level range.